

Date: Wednesday, 12/7/2005 12:45:40 PM  
 User: Kim Johnston

## Process Sheet

<b>Customer</b> :	CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> :	WEARPLATE
<b>Job Number</b> :	25171		
<b>Estimate Number</b> :	10298		
<b>P.O. Number</b> :	N/A	<b>Part Number</b> :	D25773
<b>This Issue</b> :	12/7/2005	<b>S.O. No.</b> :	N/A
<b>Prsht Rev.</b> :	NC	<b>Drawing Number</b> :	D2577 REV E
<b>First Issue</b> :	N/A	<b>Project Number</b> :	N/A
<b>Previous Run</b> :	24372	<b>Drawing Revision</b> :	E
	<b>Type</b> :	<b>Material</b> :	N/A
	PURCHASED PARTS	<b>Due Date</b> :	12/30/2005
<b>Written By</b> :	<u>SEE COMMENT BELOW</u>		<b>Qty:</b> 50 <b>Um:</b> Each
<b>Checked &amp; Approved By</b> :	<u>SEE ABOVE USER &amp; DATE</u>		
<b>Comment</b> :	Est: F 02.09.24 Re-format; Incorporated D2577-101/-13 KJ/ RF		

## Additional Product

Job Number:



<b>Seq. #:</b>	<b>Machine Or Operation:</b>	<b>Description :</b>
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1.0	PG	PURCHASING
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**Comment:** PURCHASING

Issue P/O: 00000267

Email or Ship DXF file to vendor

Laser Cut per Dwg D2577 flat pattern D2577-101

Material release note required

05/12/12

2.0	D25773F	Wearplate Aft
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**Comment:** Qty.: 1.0000 U(s)/Unit Total : 50.0000 U(s)

WEAR PLATE FWD

3.0	PACKAGING 1	PACKAGING RESOURCE #1
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**Comment:** PACKAGING RESOURCE #1

Receive &amp; Inspect For Transit Damage

Ensure material release note is attached

DL 05/12/30 50

4.0	QC6	DIMENSIONAL CHECK
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**Comment:** DIMENSIONAL CHECK

Inspect dimensions per template D2577-101T

FAB-01-11 45 PTO

5.0	SMALL FAB 1	SMALL & MEDIUM FAB RESOURCE 1
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**Comment:** SMALL & MEDIUM FAB RESOURCE 1

Deburr

N/A

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
06-01-11	4	Took 1 for template. Identify AS D2577-101T (original is missing)	<i>[Signature]</i>	06-01-11	1	<i>[Signature]</i>	<i>[Signature]</i> 06-01-11

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes ☒ No ☐ DQA: ☒ ☐ Date: 06/03/13  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 12/7/2005 12:45:40 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: WEARPLATE

Job Number: 25171

Part Number: D25773

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

BRAKE NC

NC BRAKE



Comment: NC BRAKE

1-Form on brake as per Dwg D2577 using DT8155 and DT8179

2-Identify as D2577-3

SB 06/01/19 49

7.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

Job-01-20

8.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

Weld hard surface using DT8308A & DT8308B as per Dwg D2577

Qty Description

Batch

A/R 7560 Hardcoat Rod

119174 0619442

LE 06-01-26=49

9.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

PD 06-02-03 50

10.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat Grey Sandtex (Ref: 4.3.5.6) as per QSI 005 4.3

a.m 06-03-10

11.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

MM 06 02 13 59

12.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: EP

MM 06 03 13 59

13.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

06/03/13 48

06-03-13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

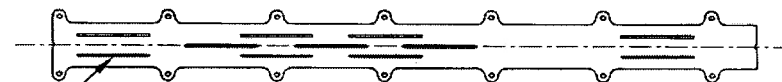
**NOTE:** Date & initial all entries



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00 09 22

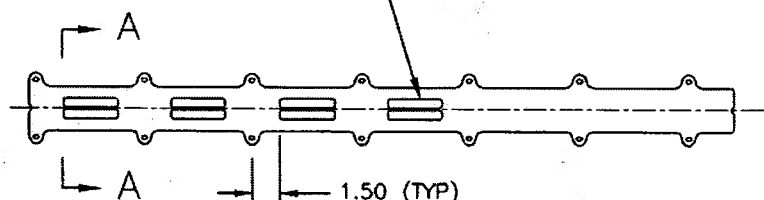
DESIGN	DRAWN BY	DART AEROSPACE LTD	REV. E
CHECKED	APPROVED	DRAWING NO. D2577	SHEET 1 OF 5
DATE 00.09.22	TITLE WEARSHOE	SCALE 1:10	
A	96.09.16	NEW ISSUE	
B	96.12.04	ADD HARDCOAT WELDS	
C	97.05.30	CHANGE HOLES TO OBROUNDS	
D	98.08.17	CORRECTED DIMENSIONS ON -1 & -3	
E	00.09.22	ADD D2577-101/-11/-13 INCORPORATE DE09176	

7560 HARDCOAT WELD  
4.0 LONG  
0.063 TO 0.125 HIGH  
(TYP. 11 PLS.)  
WELD AFTER BENDING AS  
ILLUSTRATED PER DT8308

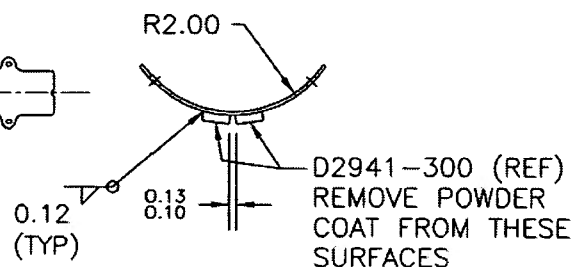


D2577-1 & D2577-3 WEARSHOE  
MAKE FROM D2577-11 AND D2577-13 RESPECTIVELY  
FINISH: POWDER COAT GREY (4.3.5.6) PER DART QSI 005 4.3  
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

D2941-300  
SHWAYDER WEAPADS  
(8 PLACES)



SECTION A-A  
SCALE 1:5

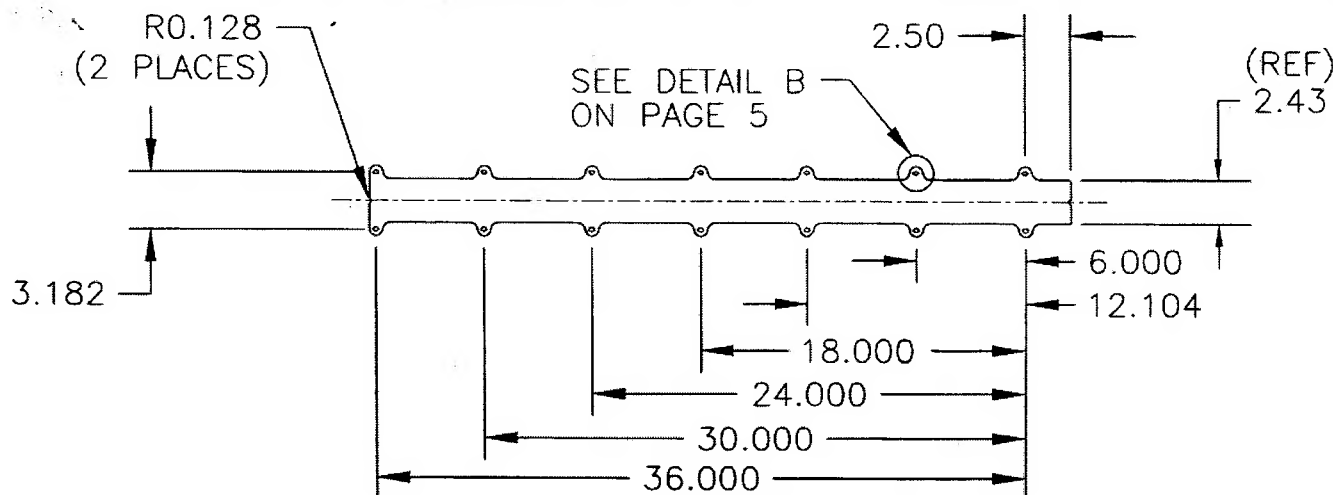


D2577-21 & D2577-23 WEARSHOE  
MAKE FROM D2577-11 AND D2577-13 RESPECTIVELY  
FINISH: POWDER COAT GREY (4.3.5.6) PER DART QSI 005 4.3  
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

**DART**



DESIGN	DRAWN BY	DART AEROSPACE LTD HAMMERSBURY, ONTARIO, CANADA
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D2577
DATE 00.09.22	TITLE WEARSHOE	REV. E SHEET 2 OF 5
		SCALE 1:10



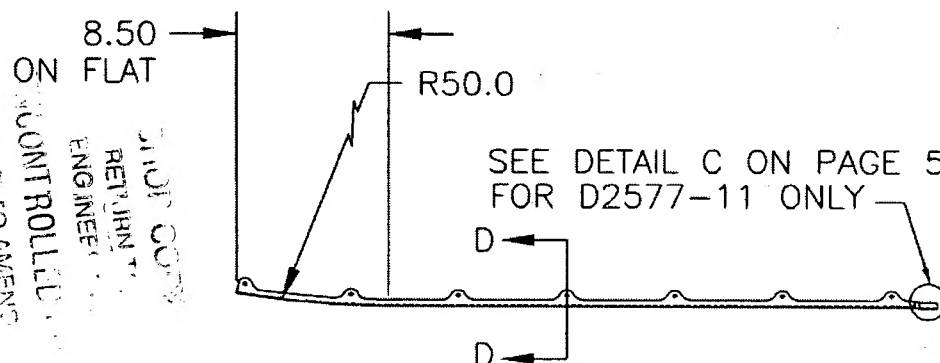
**D2577-101 FLAT PATTERN**

BREAK ALL SHARP CORNERS 0.010 TO 0.020

MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A569/A570

SERIES STEEL 0.063 THICK

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED



**D2577-11 & D2577-13 LONGITUDINAL BEND**

MAKE FROM D2577-101

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

**RELEASED**  
00.09.26 #

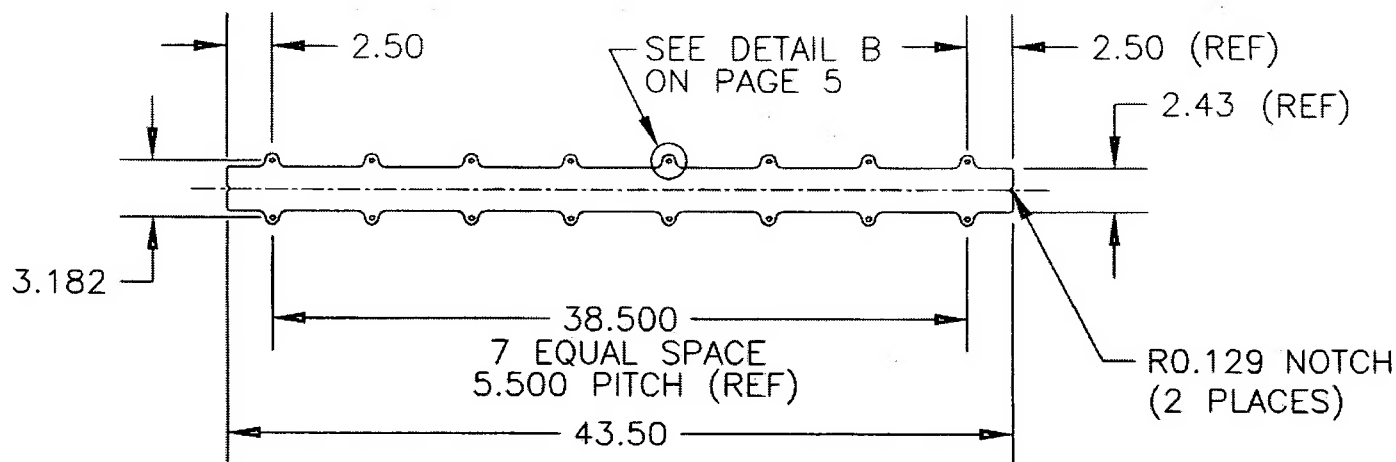
2100 COPY  
RETURN TO  
ENGINEER  
CONTROLLED  
NOT TO AMEND  
WITH  
00.09.26  
25171



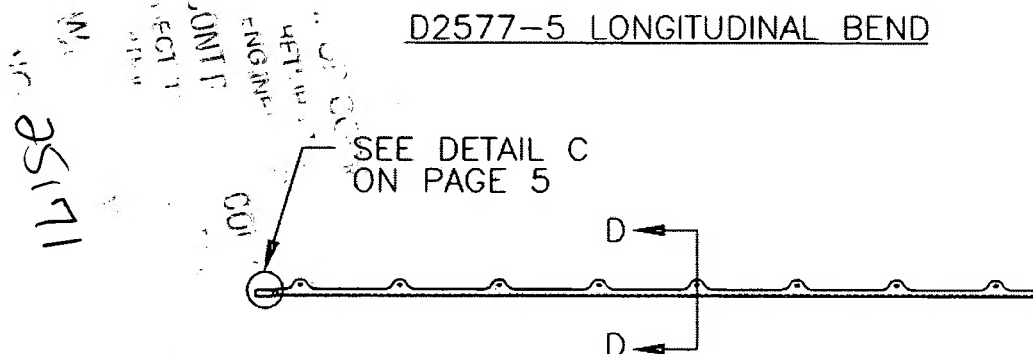
DESIGN	CP	DRAWN BY	CP	DART AEROSPACE LTD HAMKESBURY, ONTARIO, CANADA	REV. E
CHECKED	#	APPROVED	#	DRAWING NO. D2577	SHEET 3 OF 5
DATE	00.09.22	TITLE	WEARSHOE	SCALE	1:10

RELEASED  
00 04 26

### D2577-5 FLAT PATTERN



### D2577-5 LONGITUDINAL BEND



### D2577-5 WEARSHOE

BREAK ALL SHARP CORNERS 0.010 TO 0.020

MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A569/A570

SERIES STEEL 0.063 THICK

FINISH: POWDER COAT GREY (4.3.5.6) PER DART QSI 005 4.3

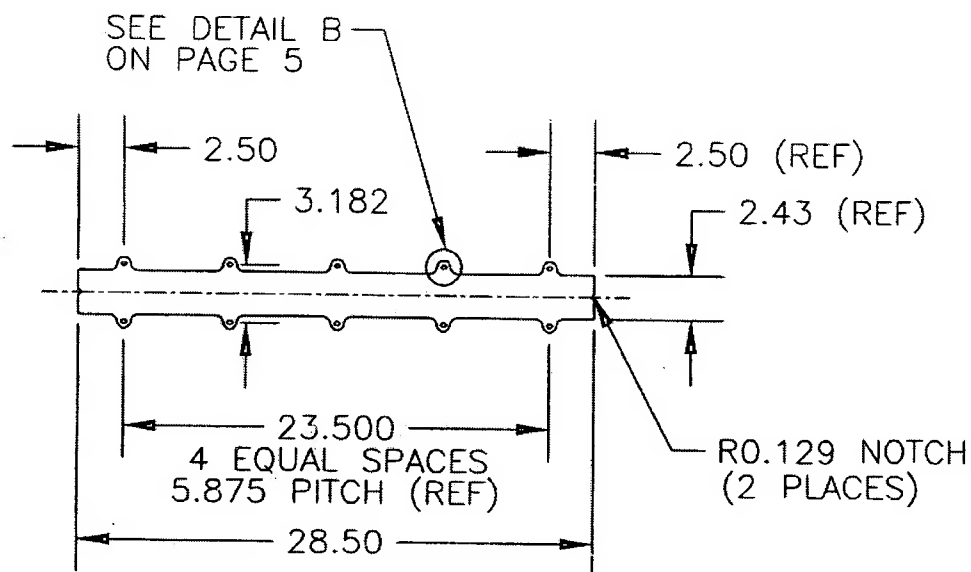
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED



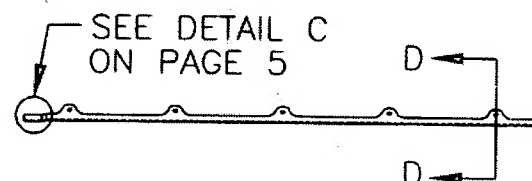


DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	REV. E
CHECKED	APPROVED	DRAWING NO. D2577	SHEET 4 OF 5
DATE 00.09.22		TITLE WEARSHOE	SCALE 1:10

### D2577-7 FLAT PATTERN



### D2577-7 LONGITUDINAL BEND



### D2577-7 WEARSHOE

BREAK ALL SHARP CORNERS 0.010 TO 0.020

MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A569/A570  
SERIES STEEL 0.063 THICK

FINISH: POWDER COAT GREY (4.3.5.6) PER DART QSI 005 4.3

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

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00.09.26

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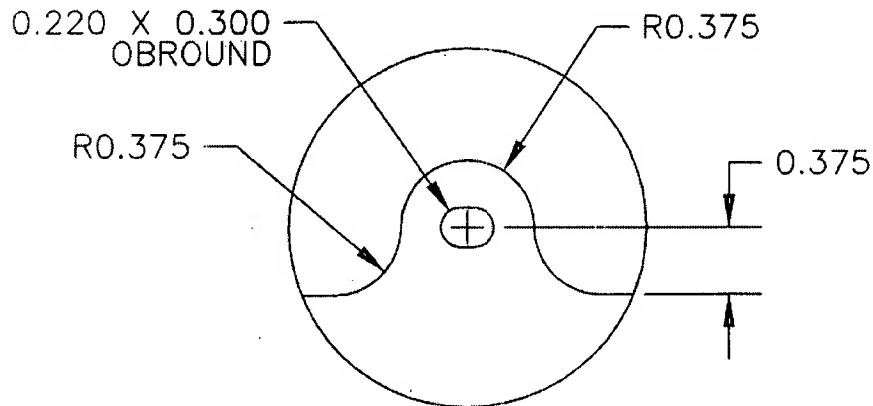
CONFIDENTIAL  
SUBJECT  
RE: DART  
END  
00.09.26



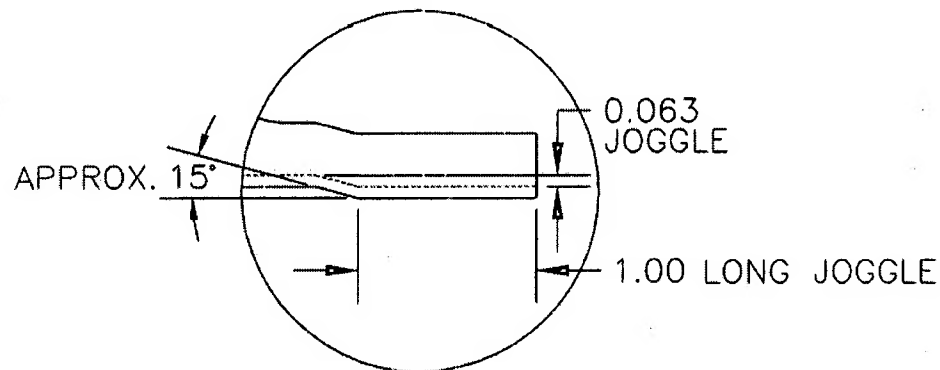
DESIGN #	DRAWN BY UP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D2577	REV. E SHEET 5 OF 5
DATE 00.09.22		TITLE WEARSHOE	SCALE 1:10

RELEASED  
00.09.26

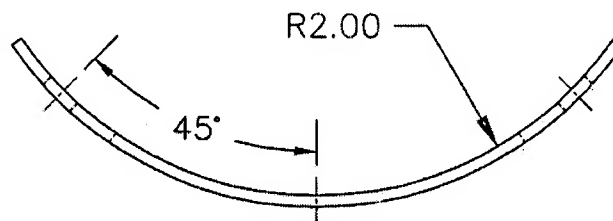
DETAIL B (SCALE 1:1)



DETAIL C (SCALE 1:1)



SECTION D-D (SCALE 1:1)



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New Zealand Steel Limited  
Glenbrook, South Auckland  
Postal: Private Bag 92121, Auckland, New Zealand  
Telephones: (09) 375 8996 / 375 8111 Auckland  
(09) 235 8089 / 235 3535 Waiuku  
Fax: (09) 375 8859

# TEST CERTIFICATE

Ref: 5210/22495

CUSTOMER	Wilkinson	P50323 DI001	SPECIFICATION	ASTMA1698 CS Type A	CERTIFICATE No	TC112397
CUSTOMER ON	90-21N-686		PRODUCT	CRA WIDE COIL	PAGE	1 of 1
MILL ON	480737		DIMENSIONS	0.055" x 48" x Coil	DATE	09 June 2005

PACK NUMBER	HEAT No	CHEMICAL COMPOSITION PERCENT																MECHANICAL TESTS (TEST SPECIFICATION - ASTM A370)						
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti	Al	B	N2	CE ( )	BEND	YIELD	T.S.	%ELONG	HARDNESS	r	LENGTH
		x100			x1000										x10000		x100		180°			G.L.°	HRB	( )
R9-459713-00	641758	4	TR	18	4	16	13	19	10	5	3	1	1					Good				54		1585
R9-459714-00	641758	4	TR	18	4	16	13	19	10	5	3	1	1					Good				54		1457
R9-459715-00	641513	5	TR	18	9	18	12	17	15	1	6	1	1					Good				48		1375
R9-459716-00	641513	5	TR	18	9	18	12	17	15	1	6	1	1					Good				48		1473
R9-459717-00	641756	5	TR	20	12	19	12	18	19	1	7	1	1					Good				48		1631
R9-459718-00	641756	5	TR	20	12	19	12	18	19	1	7	1	1					Good				48		1093
R9-459719-00	641756	5	TR	20	12	19	12	18	19	1	7	1	1					Good				50		1562
R9-459720-00	641756	5	TR	20	12	19	12	18	19	1	7	1	1					Good				50		1535
R9-460380-00	641761	4	TR	20	13	17	12	18	25	5	8	1	1					Good				50		1581
R9-460381-00	641758	4	TR	18	4	16	13	19	10	5	3	1	1					Good				49		1562
R9-460382-00	641758	4	TR	18	4	16	13	19	10	5	3	1	1					Good				49		1503
R9-461458-00	642309	2	TR	18	10	20	11	17	19	1	6	1	1					Good				48		1785

YIELD	GAUGE LENGTH (G.L.)	PLASTIC STRAIN RATIO (r)	IMPACT TEST	CARBON EQUIVALENT VALUE (CE)
(A)=0.2% PROOF STRESS	(A)=200mm (C)=80mm (E)=2"	(A)=r0 (C)=r45	(A)=10mm x 10mm (D)=2.5mm x 10mm (E)=5mm x 10mm	(A)=C+Mn/8 (B)=C+Mn/8+(Cr+V+Mo)/5+(Cu+Ni)/15 (C)=C+Mn/8+Si/24 (D)=
(B)=LOWER YIELD STRESS	(B)=50mm (D)=5.65? So (F)=8"	(B)=r90 (D)=(r0+r90+2r45)/4		

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN TESTED AND INSPECTED WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE SPECIFICATION

APPROVED *Datish Misra*  
QC METALLURGIST

16 ga ns

148, 267, 245

